

REMARKS

Claims 1-45 are pending in the application. Claims 42-45 are withdrawn from consideration. Claims 26-29 are allowed. Claims 1, 2, 4, 5, 8, 9, 11, 13-25, 30-32, and 35-41 are rejected. Claims 3, 6, 7, 10, 12, 33, and 34 are objected to.

Claim 1 has been cancelled. Claims 2, 4-6, 8-10, 14, 16, 20, 21, 30, 33-35, and 38 have been amended.

Applicants respectfully request reconsideration of the rejections of claims 1, 2, 4, 5, 8, 9, 11, 13-25, 30-32, and 35-41, including independent claims 2, 6, 10, 13, 14, 25, 26, and 32.

The Examiner had acknowledged the Information Disclosure Statement of December 15, 2003 with this January 11, 2006 Office Action. Applicants respectfully inquire whether the Information Disclosure Statement submitted October 25, 2005 with the Response to Office Action and Restriction Requirement has been considered as a copy of that initialed Form PTO-1449 was not returned.

In reviewing our file, Applicants have noticed that when the application was filed on December 15, 2003, claims 13 and 25 were originally counted as dependent claims in calculating the filing fees. Applicants note that claims 13 and 25 are independent claims and are paying the fees for these two claims as independent claims with this Response.

The Examiner objected to the missing patent reference information in paragraph [0002]. The information has been replaced in the amendment above.

The Examiner objected to the attribution after claim 14. The attributions after claim 14 and claim 8 have been removed in the amendments above.

The Examiner rejected claim 35 pursuant to 35 U.S.C. §112, second paragraph, as being unclear. The updating act has been amended to indicate what is updated, the imaging parameter.

Claims 1 and 30 were rejected pursuant to 35 U.S.C. §103(a) as being unpatentable over Poehler et al. (U.S. Patent No. 5,923,278) or Cline et al. (U.S. Patent No. 6,891,370), in either case

further in view of Chambers et al. (U.S. Application Publication 2004/0122325) or as obvious over Chambers et al. Claim 1 has been canceled and claim 30 amended to depend from claim 2. Accordingly, the above rejection should be withdrawn.

Claims 1-2, 4-5, 8-9, 11, 13, 23-24, 30-32, and 35-41 were rejected pursuant to 35 U.S.C. §103(a) as being unpatentable over Shiki (U.S. Application Publication 2003/0125624) alone or further in view of Freiburger et al. (U.S. Patent No. 6,364,838) or Suorsa et al. (U.S. Patent No. 5,363,849) alone or further in view of Cline et al. and Glass (U.S. Patent No. 6,011,625) further in view of Goh et al. (U.S. Patent No. 5,419,328). Claim 8 was rejected pursuant to 35 U.S.C. §103(a) as being unpatentable over the references as applied to claim 1 above, and further in view of Mo et al. (U.S. Patent No. 6,296,612). Claims 14-22 and 25 were rejected pursuant to 35 U.S.C. §103(a) as obvious based upon Mo et al. in view of Guracar.

Applicants respectfully request reconsideration of the rejection of claims.

Independent claim 2 recites setting one or more of different settings as a function of velocity data resulting from multidimensional phase unwrapping. The Examiner's statements rely on the other references for multidimensional unwrapping, but appear to rely on Shiki for use of the velocities. If not, the Examiner is requested to issue a non-final rejection. Shiki does not disclose these limitations.

Shiki simply uses corrected velocities for display (See abstract; paragraph [0148]; paragraph [0152]; and paragraph [0209]). A mean velocity is used to set a velocity display range (See paragraph [0142]). The mean velocity is also used to correct instantaneous velocity (See paragraphs [0143] and [0144]). Shiki does not disclose setting as a function of corrected velocities.

Independent claim 32 recites automatically updating an imaging parameter from a group in response to detecting displacement associated with an imaging region. Shiki does not disclose these limitations. Shiki corrects and displays velocity information. The display range is based on a mean velocity. Shiki does not suggest updates in response to detected displacement associated with a region.

Dependent claims 4-5, 8-9, 11, 30 and 35-41 depend from the independent claims discussed above, and are thus allowable for at least the same reasons as the corresponding base claim. Further limitations may also distinguish these dependent claims from the cited art.

Independent claim 14 recites determining a clutter level as a function of energy input to and output from a clutter filter and selecting a threshold as a function of the clutter level. Mo et al. and Guracar do not disclose these limitations.

Mo et al. provide spectral Doppler techniques (col. 1, lines 6-10). The wall filter cutoff frequency is selected automatically (col. 2, lines 20-24). Data is low pass filtered and a resulting power of a frequency transform is computed (col. 2, lines 26-35). A noise model is used to set a threshold applied to the resulting power (col. 2, lines 36-40). Based on the amount of clutter, a cutoff frequency is selected (col. 2, lines 41-54). Mo et al. set a threshold based on model noise power predicted by a system noise model (col. 4, lines 43-51). The threshold is used to determine a clutter level. Mo et al. do not use clutter level to determine a threshold, and do not determine clutter level as a function of input and output of a clutter filter.

Guracar provide a clutter filter (col. 4, lines 61-64). After clutter filtering, flow parameters are estimated and filtered (col. 5, lines 17-23). IIR or FIR type filtering is used. The output energy is thresholded (col. 6, lines 40-45). The filtering weight may be a function of the energy parameter to provide more or less persistence (col. 7, lines 34-36 and col. 9, lines 55-56). Guracar sets a filter weight based on estimated energy, not a threshold based on clutter level. Like Mo et al., Guracar does not disclose determining a clutter level from input and output of the clutter filter and does not disclose using clutter level to determine a threshold.

Dependent claims 15-22 depend from independent claim 14, and are thus allowable for at least the same reasons.


CONCLUSION

Applicants respectfully submit that all of the pending claims are in condition for allowance and seeks early allowance thereof. If for any reason, the Examiner is unable to allow the application but believes that an interview would be helpful to resolve any issues, he is respectfully requested to call the undersigned at (650) 943-7350 or Craig Summerfield at (312) 321-4726.

PLEASE MAIL CORRESPONDENCE TO:

Siemens Corporation
Customer No. 28524
Attn: Elsa Keller, Legal Administrator
170 Wood Avenue South
Iselin, NJ 08830

Respectfully submitted,


Peter Lam, Reg. No. 44,855
Attorney(s) for Applicant(s)
Telephone: 650-943-7350
Date: 3/16/06